



(This slide presentation is an overview of the Indian Health Service and its facilities program, it is designed for an audience that is not necessarily familiar with IHS or Indian people. It contains numerous images of IHS facilities, Indian people, and charts.)

The primary purpose of this presentation is to discuss how we can maximize the quality and quantity of health care services by investing properly to bring the condition of our facilities to a good or, at least, fair rating. I want to start off by telling you a story of the three little pigs.



The Three Little Pigs



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Once upon a time there were three little pigs who lived with their mother in a cozy little home. But one day, when they were older, the mother pig said, "children it's time for you go out and deliver healthcare" and she handed each \$100,000,000 and said tearfully, "here's your inheritance, spend it wisely and build yourselves each a hospital."



The Three Little Pigs



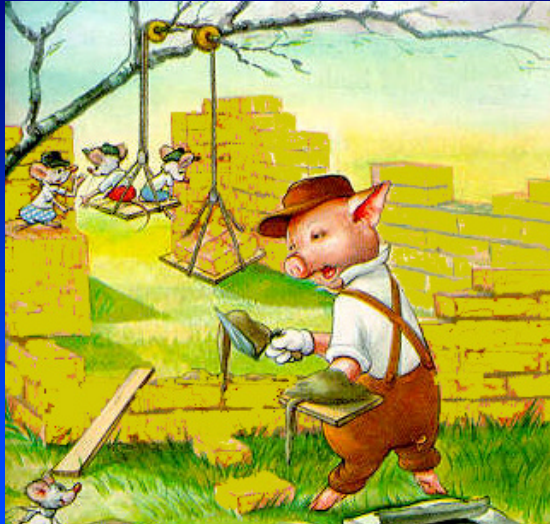
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So all three went off to build their hospitals. Having read the story of the other three little pigs, they each decided that it would be wise to build their hospitals out of brick. When he was done, the first little pig spent all of his money on doctors and neglected to maintain his hospital because he felt that would take money away from delivering health care services. Gradually his hospital began to deteriorate.



The Three Little Pigs



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The second little pig decided to spend his time and money making sure his hospital was always in A-1 perfect condition. He even went so far as to tap into his budget for health care services to gold plate everything so that it would never break down. When he was done there wasn't enough money to pay for a full staff of doctors and nurses.



The Three Little Pigs



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The third pig was wise. Health services delivery was his primary focus. To be able to accomplish this goal of excellent health care he knew that he had to strike a balance between maintenance and the costs of the doctors, nurses, and other medical related expenses.



The Three Little Pigs



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Then one day, some years later, the first pig was bitten by the wolf. He ran for his life to the hospital that he had built. But unfortunately his staff of highly trained medical practitioners were very busy. One unhappy doctor was busy setting out buckets to catch leaks from the roof, another couldn't get the lights to come on, two others were waiting to use the only working exam room left, and everyone was grouchy because the AC was out. So the 1st pig said to himself "I'm wasting my time." and he fled to the 2nd pig's hospital.

When he got there he immediately noticed a beautiful facility, but also noticed a long line of patients who, like himself, had been bitten by the wolf. He heard the 2nd pig blurt out, "I've been here six hours! How much longer will this take?" So the 1st pig said to his brother, "We have no time to waste" and they fled to the 3rd pig's hospital.



The Three Little Pigs



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At the 3rd hospital, the first two pigs were impressed that everything worked even though nothing was gold-plated. They noticed that the staff seemed relaxed and able to handle the needs of the patients. Most importantly, they received the care that they needed and lived happily ever after.

The moral:

A properly funded maintenance and repair program makes for happy doctors and happy patients.



Benchmarks Are Needed

- How do we assess the condition of a building?
 - What is good?
 - What is fair?
 - What is poor?
- Where are we now?
- How did we get there?
- Where are we going?
- What will it take?

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The primary purpose of this section is to discuss the level of funding needed to bring the condition of our facilities to a good or at least fair rating so that the best possible health care services can be provided. We want to have the wisdom of the third pig who understood that investing money on maintenance & improvements makes a big difference on health care delivery.

In this presentation we will use industry standards to define what is good, fair, and poor. We will share with you the condition of our Tribal and Government buildings. We will use the combination of economics and industry standards to project where we will be ten years from now with the current level of funding that we receive. Finally, we will discuss what level of funding is needed to bring our facilities to a fair or good status.



Facilities Condition Index (FCI)

$$\text{FCI} = \frac{\text{Backlog of Repairs}}{\text{Current Replacement Value}}$$

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Let's start by establishing a baseline or understanding of the present condition of our buildings. To do so we use an industry-wide standard called the facilities condition index or FCI.

In simple mathematical terms, the FCI is the ratio of the backlog of repairs to the current replacement value (CRV):



FCI – Condition Ratings


FCI Range	Condition
Under 5%	Good
Between 5% and 10%	Fair
Over 10%	Poor

$$\text{FCI} = \frac{\text{Backlog of Repairs}}{\text{Current Replacement Value}}$$


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If the FCI is less than 5% the building is considered to be in good condition. If it's between 5 and 10 percent it is considered to be in fair condition. And if it is over 10% it is considered to be in poor condition.



FCI – Explained



Backlog	Cost	Replacement value of the house	100,000
Roof	3,000		
Heat Pump	4,000		
Windows	3,000		
Painting	2,000		
Total	12,000		

$$\text{FCI} = \frac{\text{Backlog of Repairs}}{\text{Current Replacement Value}} = \frac{\$12,000}{\$100,000} = 12\%$$

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To establish the concept of FCI we will take an example of what you might do when you purchase a house.

In this example we take a house which is on the market for \$150 K. The land is worth \$50 K and the house has a Current Replacement Value of \$100 K. A house inspection reveals a backlog of work to be done. First, the roof is in very poor condition and needs new shingles costing \$3,000. The heat pump is reaching the end of its useful life and a more efficient one is recommended which will cost \$4,000. The existing windows are fogged due to broken seals and new windows are recommended costing \$3,000. The exterior paint has begun to peel and a paint job is needed costing \$2,000.

To determine the true condition of the house, you would sum the backlog and divide that number by the Current Replacement Value of the house. In this case you would divide \$12,000 by \$100,000 to come up with 12%.



FCI – Condition Ratings

FCI Range	Condition
Under 5%	Good
Between 5% and 10%	Fair
Over 10%	Poor

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Using industry standards you could then confirm that an FCI rating of 12 percent is indeed a poor rating and you can say with confidence that the house is in poor condition.

To get the house in fair condition you would need to reduce the backlog from \$12K to something under \$10K. This would put you between 5 and 10 percent which is a “Fair” rating.

To get the house in good condition you would need to reduce the backlog from \$12K to something under \$5K. This would put you under 5 percent which is a “good” rating.

The FCI provides a readily available and valid indication of the relative condition of a single facility or group of facilities. It enables the comparison of conditions with other facilities or groups of facilities. The higher the FCI, the worse the condition.



FCI – Industry Standards

2 Budget items needed,

- **Maintenance:** Industry Standards for maintenance is 2% to 4% of the replacement cost annually.
- **Backlog:** Separate funding for reducing backlog

Maintenance	Backlog
Simple repairs	Large projects
Painting	Replace roof
General upkeep	Upgrading to more efficient HVAC system

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Before purchasing this house you should consider the cost of maintenance (which is keeping your house in the condition that it is in) and the cost to reduce the existing backlog. You'll need an annual budget for maintenance and unless you have \$12,000 on hand to eliminate your backlog you'll need to establish a separate annual budget for the backlog. You should realize that you need two budgets, one to maintain your building at its current level and a separate budget to reduce your backlog.

Let's start with the maintenance budget. The industry standard for determining the annual cost of maintaining a facility is between 2 to 4 percent of your current replacement value. In this case, it will cost you \$2,000 to \$4,000 a year to maintain your house. Since we are talking about a well-built brick house it will probably be closer to \$2,000. This budget does not include the cost of reducing your current backlog. It is just a budget to maintain the house in its current condition. This budget will cover such things as, fixing a leaking faucet, replacing light bulbs, unclogging a sink, servicing your heat pump, painting a room, cleaning a stain in your carpet, repairing a hole in the wall, fixing a broken door, sealing your deck and driveway, etc.)

You'll need a separate budget to reduce your current backlog. This budget should be based primarily on the magnitude of your current backlog, which in your case is \$12K.



FCI – Explained (under funded)



Backlog	Cost
Roof	3,000
Heat Pump	4,000
Windows	3,000
Painting	2,000
Total	12,000


Replacement value of the house	100,000
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We have already established that you need \$2,000 a year to maintain your prospective house. How much should you budget to reduce the \$12,000 backlog?

If you budget \$1,000 per year to reduce your backlog of \$12,000 it will take you 3 years to save up enough money to address the roof project. The house inspector commented that the roof needed to be re-shingled soon or you could face some serious water damage. In all likelihood in those three years you will have spent close to \$1,000 per year to patch the roof and repair water damage, but have made no net headway.



FCI – Explained (under funded)



Backlog	Cost	Replacement value of the house	100,000
Roof	3,000		
Heat Pump	4,000		
Windows	3,000		
Carpentry	2,000		
Painting	2,000		
Total	14,000		

$$\text{FCI} = \frac{\$14,000}{\$100,000} = 14\%$$

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At the end of three years. The roof still needs to be replaced, the lack of painting has caused some areas of your house to dry rot, requiring a carpenter to replace damaged wood at an extra cost of \$2,000.

At the end of three years your backlog will have increased to \$14,000. Correspondently, your FCI will have increased to 14 percent which means your house went from poor to more poor. To make matters worse, you are back to zero dollars in your reserves.



FCI – Explained (well funded)



Backlog	Cost	Replacement value of the house	100,000
Roof	3,000		
Heat Pump	4,000		
Windows	3,000		
Painting	2,500		
Total	9,500		

$$\text{FCI} = \frac{\text{Cost of Deficiencies}}{\text{Current Replacement Value}} = \frac{\$9,500}{\$100,000} = 9.5\%$$


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Now, let's say that you decide to budget \$3,000 a year to reduce your backlog.

In the first year you replace the roof shingles which will reduce your backlog by \$3K. However, because you let the paint project go another year it will cost you more to prep and seal the house properly plus repair a small amount of new dry rot. So your total paint project will increase from \$2K to \$2.5K.

Nevertheless you manage to decrease your FCI from 12% to 9.5%. And your house went from poor to fair in one year.



FCI – Explained (well funded)



Backlog	Cost
Roof	2,000
Heat Pump	4,000
Windows	3,000
Painting	2,500
Total	3,000

Replacement value of the house	100,000
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$$\text{FCI} = \frac{\$3,000}{\$100,000} = 3\%$$

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At the end of year 2 you will have saved enough to tackle the paint project. At the beginning of year 4 you will be able to install a new heat pump, assuming the old inefficient heat pump held together that long.

With a new heat pump in place you'll enjoy lower utility costs and your FCI will be 3 percent, which puts your house in good condition. Then you can even think about reducing the budget for the backlog.




49 Hospitals in 14 States







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Now that we understand the concept of FCI let's apply the same principles to Indian Health Service facilities which consist of both Tribal and Government-owned facilities.



IHS Ambulatory Care Systems




■ Hospitals	49
■ Health Centers	209
■ Health Stations	121
■ Village Clinics	168
■ Urban Clinics	34

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The IHS supports 49 hospitals and numerous smaller health centers and other buildings.



Backlog Data

Backlog of Essential Maintenance, Alterations, and Repairs (BEMAR)


* Patient Care Improvements	* Architectural
* Life Safety	* Structural
* General Safety	* Mechanical
* Environmental Compliance	* Electrical
* Program Deficiencies	* Utilities
* Handicapped Compliance	* Grounds
* Energy Conservation	* Painting
* Seismic	* Roof
Plant Management	Unmet Space Needs

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The IHS maintains a backlog of deficiencies (which we call the BEMAR) in the Facilities database which is accessed and updated by Area facility engineers and Service Unit facility managers nationwide.

Currently the IHS has identified over 20,000 backlog items in the Nationwide Facilities Database. These backlog items have been identified through deep look surveys, annual inspections, and daily inspections. Each backlog item is tracked and categorized.

For the purposes of determining the FCI not all of the categories are considered backlog repair items. Those without an asterisks, which include, Unmet Space Needs, and Plant Management are excluded from the FCI analysis. The categories with the asterisks, such as, Patient Care Improvements, Life Safety, Environmental Compliance, Program Deficiencies, Handicapped Compliance, Energy Conservation, Architectural, Structural, Mechanical, Electrical, Utilities, Grounds, Painting, Roof repairs, and Seismic Mitigation are included in the FCI analysis.



Where are we now?


	HOUSE	IHS
Backlog	\$12,000	
CRV	\$100,000	
FCI	12 percent	
Annual Maintenance Budget	\$2,000 (2 percent)	
Annual Backlog Budget	\$3,000	

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In our previous example the initial backlog was \$12,000. The CRV was \$100,000. The FCI was 12 percent. The annual maintenance budget was determined to be \$2,000 based on industry standards. And an annual budget of \$3,000 was deemed adequate to address the backlog.

Now we're ready to plug in real numbers for IHS Tribal and Government Facilities



Where are we now

	HOUSE	IHS
Backlog	\$12,000	\$504,000,000
CRV	\$100,000	\$1,932,000,000
FCI	12 percent	26 percent
Annual Maintenance Budget	\$2,000 (2 percent)	\$26,000,000 (1.3 percent)
Annual Backlog Budget	\$3,000	\$20,000,000

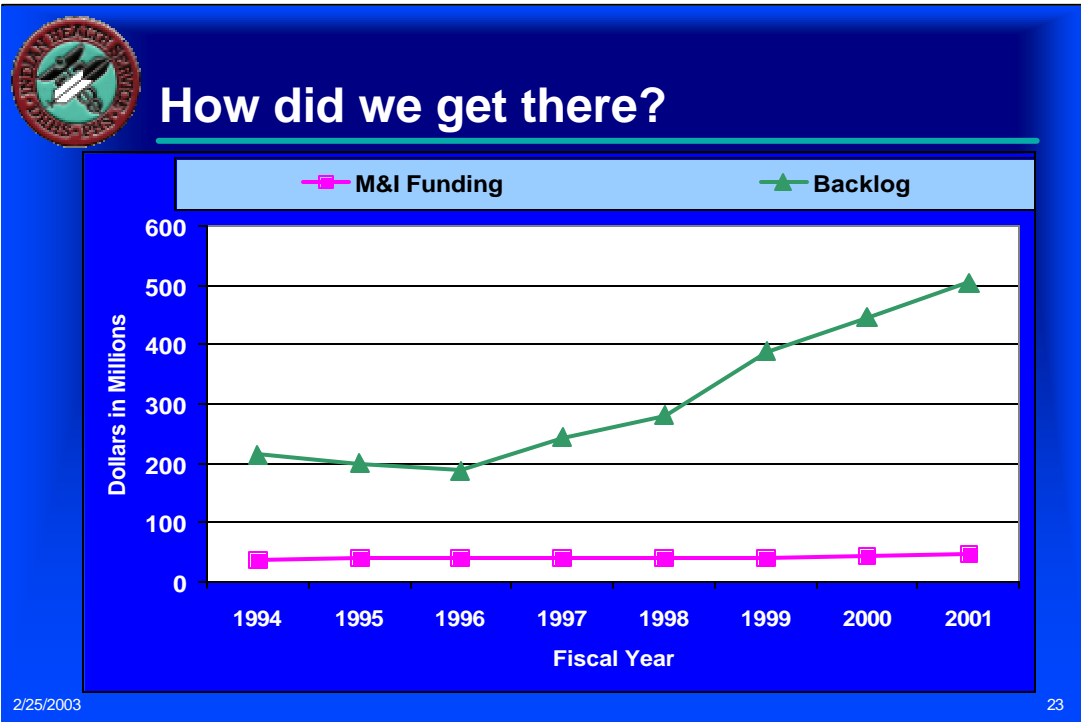
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For IHS the backlog is \$504 million. The CRV is \$1.9 billion

Notice the FCI is 26 percent, which means that our facilities are in poor condition. Somehow we manage to keep our health care facilities JCAHO- accredited. In other words, we are getting a passing grade, but we are squeaking by when it comes to handling our backlog.

Currently IHS receives \$46 million a year for maintenance and improvement, which we call the M&I appropriation. \$26 million is designated for maintenance which represents 1.3% of the IHS CRV our facilities. Remember, the minimum industry standard is 2%.

The other \$20 million (of the \$46 million appropriation) is designated for addressing the backlog. And, as we will demonstrate, this amount is also inadequate. As a result, the backlog has grown very large and will continue to grow if the amount of funding is not increased.

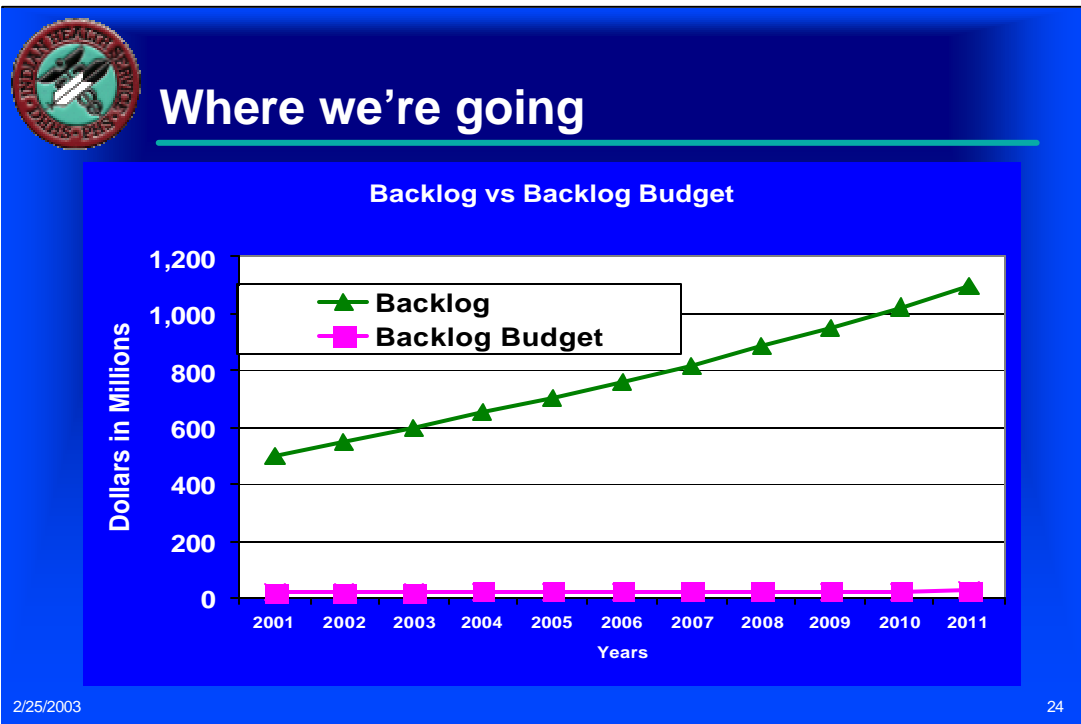


Before we start to project where we are going with our backlog let's take a look at where we've been.

In 1994 the backlog was around \$200 million. During 1998 the total backlog jumped over \$100 million dollars when we began to track Seismic Mitigation projects. Today the backlog is \$504 million as represented by the green line.

Since 1994, the M&I appropriation has increased slightly each year from \$38 million to \$46 million as represented by the pink line.

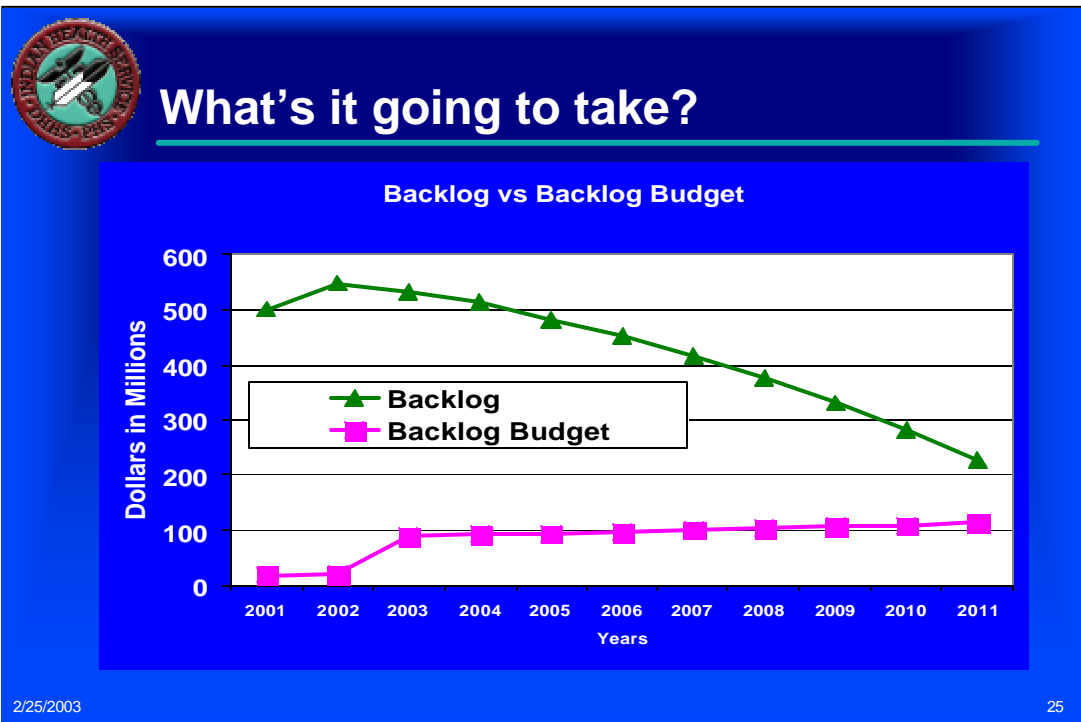
The most important thing to notice is that even if we exclude the addition of Seismic Mitigation projects, our backlog has doubled.



So where can we expect to be in the year 2011? Based on a current funding level of \$20 million and a funding level increase of 3 percent each year, the annual budget for addressing the backlog will grow from \$20 million to \$26.9 million dollars as represented by the pink line.

Based on an inflation rate of 3 percent, a backlog deterioration rate of 3 percent, and building deterioration rate of 2 percent (these rates are on the conservative side) the backlog is expected to climb from \$500 million to \$1.1 billion dollars as represented by the green line.

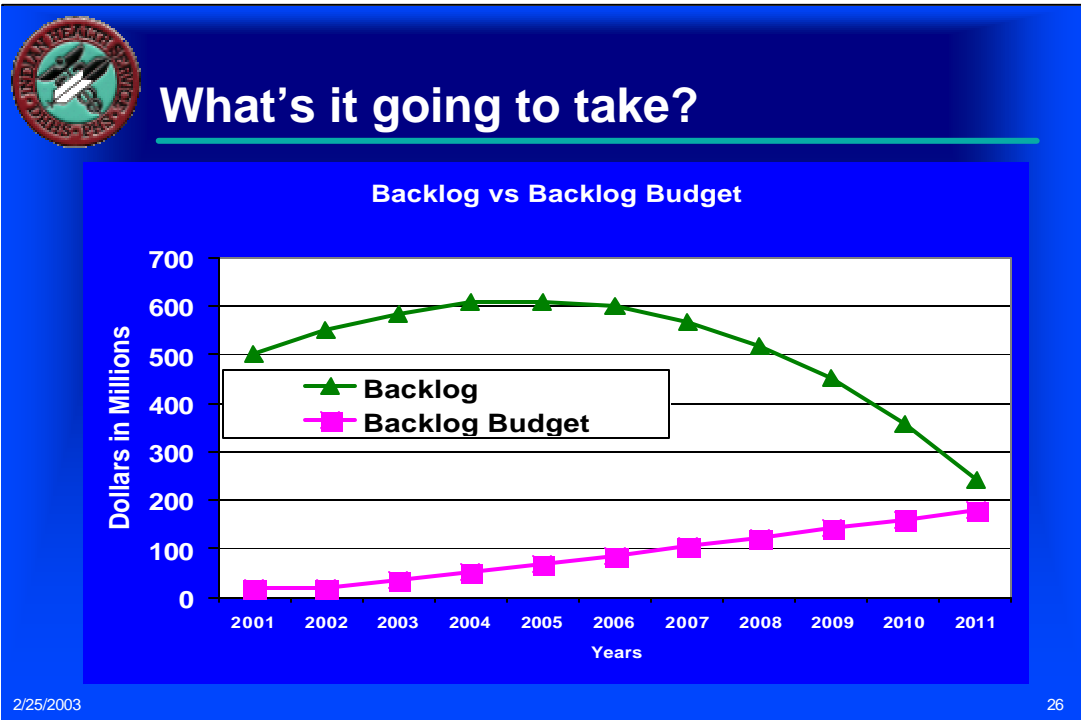
During that period, the FCI will grow from 26 percent to 49 percent. Having an FCI this high will seriously compromise our ability to provide quality health care services. Remember what the 1st pig said to the 2nd pig, "We have no time to waste" as they fled to the 3rd pig's hospital.



One approach is to increase the level of our backlog budget by \$68 million in 2003 so that by 2010 the backlog budget will be \$113 million as represented by the pink line.

Based on an inflation rate of 3 percent, a backlog deterioration rate of 3 percent, and building deterioration rate of 2 percent the backlog would reduce to \$226 million as represented by the green line.

During that period the FCI will fall from 26 percent to 10 percent which will put our facilities into the “fair” condition. This will certainly help our ability to provide health care services.



Another approach is to increase our “backlog” budget by \$15 million each year. The backlog budget will grow from \$20 million in 2001 to \$179 million dollars in 2011 as represented by the pink line.

Based on an inflation rate of 3 percent, a backlog deterioration rate of 3 percent, and building deterioration rate of 2 percent the backlog would reduce to \$240 million as represented by the green line.

During that period the FCI will fall from 26 percent to 10 percent which will put IHS into the “fair” condition. We can then expect the 1st and 2nd pigs to be running to our hospitals.



What will it take?

■ Current Situation

- BEMAR Is On the Rise
- Delivery of Health Care is Jeopardized

■ What level of funding is needed to maximize our ability to provide health care services?

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Our BEMAR is rising and if we stay on the current path that we are on it will only continue to rise so that by 2011 it will exceed 1.1 billion dollars. This will certainly jeopardize our ability to deliver quality health care.

In order to maximize our health care services our minimum goal is to get our facilities back to a fair condition within 10 years. Both approaches discussed – the 1st approach is to increase the level of our backlog budget by \$68 million in 2003, and the 2nd approach is to increase our “backlog” budget by \$15 million each year - will achieve the same results.

(However the 2nd approach is favored by the Facilities Engineers because it gives them more time to adjust to the increase workload associated with more funding.)

By the year 2011, the 1st approach will have cost \$906 million and the 2nd approach will have cost \$948 million.